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R⁵ is hydrocarbyl or substituted hydrocarbyl;

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Z is O or S;

U is -OR¹⁰, -SR¹⁰, -SeR¹⁰ or -NR¹⁰R⁸, wherein R¹⁰ and R⁸ are each independently selected from H, hydrocarbyl, substituted hydrocarbyl, or silyl, and in addition R¹⁰ and R⁸ may collectively form a ring with nitrogen;

G¹ is hydrocarbyl or substituted hydrocarbyl and may comprise a carbocyclic or heterocyclic ring, thereby forming a 5-membered or 6-membered heterocyclic ring comprising G¹, C, and N;

G² is hydrocarbyl or substituted hydrocarbyl and may comprise a carbocyclic or heterocyclic ring, thereby forming a 5-membered or 6-membered heterocyclic ring comprising G², V, N, and N;

V is -CR⁶, N, or -PR⁶R⁹; wherein, R⁶ and R⁹ are each independently selected from H, hydrocarbyl, substituted hydrocarbyl, silyl or heteroatom connected hydrocarbyl, and in addition, R⁶ and R⁹ may collectively form a ring with phosphorus;

 Ω is hydrocarbyl or substituted hydrocarbyl; and, n is an integer between 2 and 6.

Preferred catalysts of formula I are those which comprise a ligarid of the formula VI or XXII.

Thus, in the case of a ligand of formula **VI**, the present invention provides a catalyst system comprising a transition metal-ligand complex of the formula **IV**:

$$R^4$$
 G^2
 $N=V$
 $N=V$
 T
 L
 IV